Addison Fire Department
Pre-action Fire Sprinkler Installation

The purpose of this document is to identify minimum requirements necessary to establish acceptable installation practices for pre-action fire sprinkler systems. These standards can be found in detail in the most recent version of NFPA 13, & Addison City ordinance.

- All steel piping shall be internally galvanized steel.
- Extended coverage heads are not permitted in pre-action systems.
- Double interlock systems **are not** allowed in Addison.
- Pre-action systems shall be one of the following types.
  (a) Single Interlock System. A single interlock system admits water to sprinkler piping upon operation of detection devices.
  (b) Non-Interlock System. A non-interlock system admits water to sprinkler piping upon operation of detection devices or automatic sprinklers.
- Not more than 1000 heads or not more than 750 gal (2839 L) shall be controlled by one pre-action valve.
- The automatic water control valve shall be provided with hydraulic, pneumatic, or mechanical manual means for operation that is independent of detection devices and of the sprinklers.
- System water control valves and supply pipes shall be protected against freezing and mechanical injury.
- Valve rooms shall be lighted and heated. The source of heat shall be permanently installed with automatic thermostat control. Heat tape **shall not** be used in lieu of heated valve enclosure rooms to protect pre-action and deluge valves and supply pipe against freezing.
- An A/C power disconnect to the air compressor shall be located in the valve/riser room and shall be labeled as such. (A light switch shall not be used for this purpose.)
- Only upright sprinklers shall be installed on pre-action systems.
  *Exception No. 1: *Listed dry sprinklers shall be permitted.*
  Exception No. 2: Pendent sprinklers installed on return bends shall be permitted where both the sprinklers and the return bends are located in a heated area.
  Exception No. 3: Horizontal sidewall sprinklers, installed so that water is not trapped, shall be permitted.
- Pre-action systems shall be automatically supervised for High and Low air pressure with a minimum air supervising pressure of 7 psi.
- Upon activation of the pre-action valve, an alarm signal must be received at the FACP within 60 seconds.
- All pre-action systems shall be equipped with a trip test (inspector's test) connection not less than 1-inch in diameter with a smooth bore corrosion resistant orifice to provide flow equivalent to one sprinkler of the smallest orifice on the system. The discharge shall be piped to a safe location capable of accepting the full flow from the system being tested for the duration of the test.
- The relief side of the alarm line piping shall be hard piped with check valve or a velocity check valve with relief plunger back to the drain line to prevent overflow or spraying of water in the valve room. (No tubing to the drain cup will be accepted).
- All pre-action systems shall be equipped with an alarm bypass test connection per NFPA 13 5-15.1.3 (1999).

It is the responsibility of the fire sprinkler contractor to recognize, understand and practice the installation standards prescribed in NFPA 13 and elsewhere to ensure the reliability, survivability and serviceability of the fire sprinkler system, fire pump and other life safety systems that are specific to a fire sprinkler contractor. Any error or omission by the Fire Department shall not be interpreted as permission to install a system incorrectly.

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